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DISINFESTATION PROCEDURES IN THE FIELD

1. Disinfestation is a general term applied to the extermination of insects, vermin, and other ecto-parasites present upon the person, clothing or immediate environment of an individual or group of individuals. In the transmission of disease the two most important insects coming under this category are lice and fleas. The procedures described in the following paragraphs are simple and are intended for field use. Attention is invited to WD Technical Bulletin, TB MED 184 dated July 1945, subject: Disinfestation Procedures, for a complete discussion and description of disinfestation procedures.

2. Lice.

a. General. Disinfestation in the case of lice is commonly known as de-lousing. Effective de-lousing provides for the disinfestation of both the person and his clothing at the same time since lice and their eggs are often on both the person and clothing of an individual. Head lice and pubic lice (crabs) may be grouped with body lice (cooties) for disinfestation. Dusting with DDT louse powder is the method of choice in overseas theaters due to its adaptability for field use. Facilities for fumigation with methyl bromide or steam sterilization of clothing, bedding, and equipment, and bathing and application of louse spray to the person of infested individuals are available at marine ports of embarkation in the continental United States.

b. Effectiveness of DDT louse powder. Lice which have been exposed to DDT louse powder (Insecticide, powder, louse) begin to die in 6 hours and are all dead by 20 hours after exposure. Only hatched lice are killed by DDT louse powder and it is necessary to re-apply powder after the eggs are hatched if dusted clothing has been removed. The louse egg hatches in about ten (10) days. Clothes will remain lousicidal for a period of 21-30 days after dusting with 1 ounce of DDT louse powder in the manner described below; eggs are not killed but any lice which hatch out during this period or lice which are newly introduced will be killed.

c. Equipment and Supplies. DDT louse powder is applied by means of hand or power dusters.

(1) Duster, powder, insecticide, Stock No. 41-D3755, unit each. Requisition this hand duster in ratio of 1 duster per 100 pounds of louse powder. The 3 ft. nozzle that is regularly supplied with these dusters should be sawed off to a length of 8 inches.

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(2) Outfit, de-lousing, gasoline-engine driven, QM stock No. 66-0-800, unit each. This power duster outfit furnishes compressed air for 10 special dust guns included with the unit. An operating team of 11 men (10 dusters and 1 mechanic) can dust a total of 600 individuals and their un-removed clothing per hour. Additional personnel are needed to route persons through the dusting procedure.

(3) Insecticide, powder, louse, QM Stock No. 51-180, unit pound. About 100 pounds will be required to de-louse 1000 men. Additional powder is needed for extra clothing and bedding. This powder is a 10 percent mixture of DDT in prophyllite, an inert powder diluent.

(4) Insecticide, powder, louse, 2 ounce can, QM stock No. 51-1-173, unit can. This item is identical with the bulk powder as described above but is packed in a two-ounce shaker can for individual use.

(5) Larvicide, DDT powder, dusting QM Stock No. 51-L-122 may be used as a substitute for insecticide, powder, louse, if the latter item is not available. Larvicide, DDT, powder, dissolving, QM stock No. 51-L-120 must not be used since this item is pure DDT.

d. Procedure for mass de-lousing.

(1) It is advantageous to set up de-lousing teams of 3-5 enlisted men with an NCO to direct the operation when hand dusters are used. Such teams can disinfest from 150 to 250 persons an hour. Individuals learning the dusting technique should remove the clothing of the first few persons after dusting to note whether the powder is completely and evenly distributed and whether the proper amount has been applied.

(2) The chamber of each dust gun is filled to about 3/4 of its total capacity. The procedure as outlined below will deliver approximately 1 ounce of powder per person. Less than this amount is ineffective; a greater amount will cause persons to remove the powder immediately by bathing or changing clothes which is to be avoided.

(3) The man is directed to loosen his collar and belt, and then to stand or sit with hat in hand.

(4) Dust the hair until whited, separating the hair to insure even distribution, and also dust the inside of the hat.

(5) Insert nozzle of gun in right sleeve next to the skin with the man's arm held straight out at shoulder height and to the side, and direct two full plunger strokes of powder toward the armpit. Repeat for left sleeve.

(6) Insert nozzle in front of shirt at collar and direct two full plunger strokes each toward the right armpit, toward the belly, and toward the left armpit.

(7) Insert nozzle in back of shirt at collar and direct two full plunger strokes each toward the right shoulder, the middle of the back, and the left shoulder. Deposit additional powder on the neckband of the collar itself where lice frequently abound and also under the shirt over each shoulder.

(8) Insert nozzle in front of trousers at the waistband next to the skin, with the man standing, and direct two full plunger strokes each toward the right leg, the crotch, and the left leg.

(9) Insert nozzle in back of trousers, next to skin, and direct two full plunger strokes each toward the right leg, the buttocks crease and the left leg.

(10) In dusting women, an extra quantity of dust can be blown in at the collar, thus dispensing with dusting at the waist.

(11) Where multiple layers of clothing are worn, it is desirable to repeat the dusting for each layer of clothing when feasible.

(12) With hand dusters two full even strokes in each position are required. With the power duster, a momentary pressure on the trigger to release a like amount of powder is all that is necessary; the exact timing is learned by experience.

e. Individual de-lousing. This is readily achieved with disciplined soldiers by instructing each individual to shake half of the contents of a 2-ounce can of louse powder into the head, axillary, and pubic hair and into the inner surfaces of the underwear, and shirt, and crotch of the trousers. Instructions should be given to take special care to rub the powder in well about the inner surfaces of the collar and armpits of the underwear and shirt, particularly in the seams, since lice are ordinarily found in these locations.

f. De-lousing of clothing and bedding.

(1) Clothing and bedding not on the person of the individual may be disinfested by dusting with louse powder. All surfaces, including the seams and inner folds of clothing and bedding, should be treated. A minimum of 20 hours after exposure is required to insure death of all lice. Eggs are not destroyed by this method and the louse powder must remain in the clothing and bedding for about 10 days, or until all eggs have hatched, so as to kill the newly-hatched nymphs.

(2) Exposure of infested clothing and bedding to a temperature of -100°F. or colder for at least 2 hours and storage at ordinary temperatures for 3-4 weeks will destroy lice and their eggs. Laundering of clothing by the quartermaster laundry formulas, will disinfest clothing, but provision should be made to prevent infestation of the laundry and operators and the reinfestation of clothing subsequent to laundering or cleaning.

g. Disinfection of clothing and bedding. In addition to de-lousing procedures, hospitals admitting cases of typhus fever must take precautions in handling and disinfecting the clothing of such patients as the causative agent of typhus, Rickettsia prowazeki remains infective after the death of its louse host, and is not affected by DDT powder. Disinfection is readily accomplished with steam sterilization or boiling in the case of articles of clothing or bedding not injured by heat, but in the case of woollens, leathers and other such articles, disinfection should be achieved by soaking in cresol solution.

3. Fleas.

a. General. The human flea, Pulex irritans, the dog flea, C. canis, the cat flea, C. felis, or the rat flea, Xenopsylla cheopis, which transmits plague, require both general and individual insecticidal measures. Fleas which have been exposed to louse powder and other DDT-preparations will die after 12 to 24 hours.

b. General measures: Thorough housecleaning should be directed toward the removal of breeding material such as dust and the fecal material of insects and rodents from floor cracks, corners, from under floor coverings, and from within packing boxes. These places should then be freely dusted with louse powder. All pets and other domestic animals and their kennels should be likewise dusted with powder. The interior of trucks, boats and organization equipment should be inspected, and, if found infested with fleas, should be thoroughly dusted with louse powder. Insecticide, spray, DDT, residual effect, Q. Stock No. 51-1-305 may be used in place of louse powder. Rodent control measures should be instituted since rats serve as reservoir hosts for fleas.

c. Individual measures: Louse powder may be applied as described in paragraph 2, but supplementing the treatment by adding an extra dusting to the interior of the trouser legs. Personnel working in flea-infested areas should wear leggings or tuck their trousers into combat boots in addition to being dusted. Where flea infestation is particularly heavy, it is useful to apply insect repellent as a spray to the clothing of personnel as a temporary protection. Both repellent, insect (2-ounce bottle), Q. Stock 51-R-265 and repellent, insect, clothing treatment, Q. Stock No. 51-R-300 repel fleas. If the 2-ounce bottle of insect repellent is used, care must be taken that the particular issue is pure dimethylphthalate, since this item number includes also indalone, Formula 612, and 6-6-2 mixture which are not as effective as dimethylphthalate.

/s/ Guy B. Denit
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